

REMARKS

Claims 1 and 3-4 are all the claims pending in the application.

Claim 1 has been amended to incorporate the subject matter of claim 2, which has been canceled. Claim 1 has been further amended based on, for example, [0018] of the specification.

Claim 3 has been amended to correct a typographical error.

Entry of the above amendments is respectfully requested.

I. Information Disclosure Statement

The Examiner has returned a copy of the PTO/SB/08 Form submitted with the Information Disclosure Statements (IDS) filed on May 1, 2006, in which the Japanese references are crossed out allegedly because they were not in English.

Applicants note that it is not required for documents cited in an IDS to be in English. The requirement is for a concise explanation of the relevance, as it is presently understood by the individual designated in 37 C.F.R. §1.56(c) most knowledgeable about the content of the information listed that is not in the English language.

In this case, the references crossed out by the Examiner were submitted with the International Search Report for the PCT application, No. PCT/JP04/015812 dated December 14, 2004, which indicates the degree of relevance for JP 10-502097, JP 2002-179978, JP 2004-176036, and JP 2003-268276. Thus, the International Search Report provides an indication of the degree of relevance of the listed references as found by the International Bureau in compliance with the concise explanation requirement under 37 C.F.R. § 1.98(a)(3) for foreign language documents as indicated at page 2 of the IDS filed May 1, 2006. This is an accepted practice as indicated by MPEP §609.04(a)(III), which states, "where the information listed is not in the English language, but was cited in a search report or other action by a foreign patent

office in a counterpart foreign application, the requirement for a concise explanation of relevance can be satisfied by submitting an English-language version of the search report or action which indicates the degree of relevance found by the foreign office."

It is also explained in the Information Disclosure Statement transmittal letter submitted on May 1, 2006, that JP 6-100810, JP 9-59331, JP 9-272706, JP 60-161464 and JP 11-12528 are cited and discussed on pages 3 and 4 of the specification of the present application, which is in compliance with the requirement for a concise explanation requirement under 37 C.F.R. § 1.98(a)(3) for foreign language documents. This is also an accepted practice as indicated by MPEP §609.04(a)(III), which states: "the concise explanation may be either separate from the specification or part of the specification. If the concise explanation is part of the specification, the IDS listing should include the page(s) or line(s) numbers where the concise explanation is located in the specification."

In view of the above, the IDS filed May 1, 2008 is in compliance with 37 C.F.R. §§1.97 and 1.98 and the three Japanese references crossed off on the PTO/SB/08 Form submitted therewith should have been considered by the Examiner.

Accordingly, Applicants respectfully request the Examiner to return an initialed copy of the PTO/SB/08 Form submitted with the IDS filed May 1, 2006, indicating that the references have been considered and made of record.

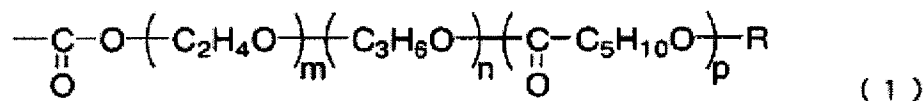
II. Response to Rejection of Claims 1, 2, and 4 under 35 U.S.C. § 103(a)

Claims 1, 2 and 4 are rejected under 35 U.S.C. § 103(a) as allegedly being unpatentable over Nakajima et al. (EP 1 270 624) in view of Ishii et al. (US 5,302,654).

Applicants respectfully traverse the rejection.

Claim 1 is directed to an aqueous ink comprising, as a dispersant, a graft copolymer having a weight average molecular weight of from 1,000 to 100,000 and comprising: a polymer

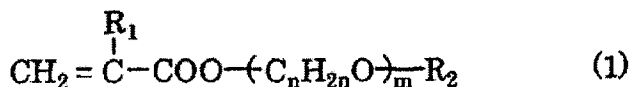
having a weight average molecular weight of from 300 to 10,000 represented by the following formula (1) as a side chain; and a polymer as a main chain comprising a hydrophobic monomer unit as an essential component, and, if necessary, other copolymerizable monomer unit as a constitutional component:



wherein the sum of m and n is 1 or more, p is 0 or 1 or more, and R is a chemical structural unit having an ionic functional group, wherein the ionic functional group is a carboxyl group or a tertiary amino group, and wherein the graft copolymer is formed by a macromonomer method, an ionic polymerization method, a chain transfer method, or a method of making an active site with radiation and polymerizing a monomer.

It is respectfully submitted that a *prima facie* case of obviousness has not been established.

Nakajima discloses formula (1):



in which

R₁ stands for hydrogen or CH₃,

R₂ stands for hydrogen or C₁ to C₄ alkyl group,

m is an integer of 4-60, in particular 6-50, and

n is an integer of 2-3, preferably 2, and

oxyalkylene units (C_nH_{2n}O) in the number of m may be the same or different from each other.

However, Nakajima does not disclose that the monomer having the above formula is grafted to a main chain or that the monomer of formula (1) is a side chain. In addition, in formula (1), R₁ and R₂ are not a chemical structural unit having an ionic functional group. Thus, Nakajima does not disclose the claimed side chain monomer of claim 1.

In addition, Ishii does not make up for the deficiencies of Nakajima.

Accordingly, even if the references were somehow combined, the combination of Nakajima and Ishii would not result in the claimed invention according to claim 1. Thus, every element of claim 1 is not taught or suggested.

Regarding the placement of the ionic moiety, the Examiner asserts that Ishii teaches a self-emulsifiable polymer for encapsulating a pigment in situ for use in aqueous ink compositions. *See* col. 1, lines 15 and 46-57.

The self-emulsifiable polymer of Ishii is self-emulsifiable for emulsion polymerization of an ethylenically unsaturated monomer, but does not relate to the use as a dispersant. In addition, there is no specific teaching that an ionic group is at the terminal end of one side of a long-chain hydrophobic segment, thus the emulsifiability is believed to be achieved even if ionic or hydrophilic moieties are present in the chain somewhere. Further, the polyalkylene oxide structure of the present invention and/or the structure of the present invention, in which the terminal end (ω -position) of the polyester structure is an ionic functional group, is not specifically disclosed. Therefore, it would not be obvious to one of ordinary skill in the art to place the ionic moieties at the end of the side chain and one of ordinary skill in the art would not arrive at the claimed invention.

Moreover, the dispersant disclosed in Nakajima is a dispersant obtained only by polymerizing three kinds of monomers, but is never a graft copolymer in which the side chain is the polymer represented by the formula (1) or (2) of the claimed invention and the main chain is a polymer comprising a hydrophobic monomer unit. For synthesizing the graft copolymer of the claimed invention, a macromonomer method, an ionic polymerization method, a chain transfer method, or a method of making an active site with radiation and polymerizing a monomer are performed. *See* [0018] of the specification.

For at least the above reasons, it is respectfully submitted that claims 1 and 4 are patentable over Nakajima and Ishii.

Accordingly, withdrawal of the rejection is respectfully requested.

III. Response to Rejection on Claim 3 under 35 U.S.C. § 103(a)

Claim 3 is rejected under 35 U.S.C. § 103(a) as allegedly being unpatentable over Nakajima et al. (EP 1 270 624) in view of Kiguchi et al. (US 2002/0128351) and Ishii et al. (US 5,302,654).

Applicants respectfully traverse the rejection.

As discussed above, Nakajima does not disclose the claimed side chain monomer of claim 3. In addition, neither Kiguchi nor Ishii make up for the deficiencies of Nakajima. Thus, even if the references were somehow combined, the combination would not result in the claimed invention according to claim 3.

For at least the above reason, it is respectfully submitted that claim 3 is patentable over Nakajima, Kiguchi and Ishii.

Accordingly, withdrawal of the rejection is respectfully requested.

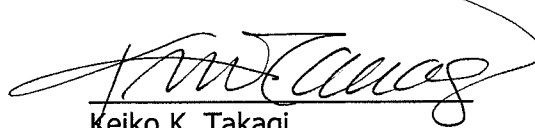
IV. Conclusion

In view of the above, reconsideration and allowance of claims 1, 3 and 4 is respectfully requested.

If any points remain in issue which the Examiner feels may be best resolved through a personal or telephone interview, the Examiner is kindly requested to contact the undersigned at the telephone number listed below.

The USPTO is directed and authorized to charge all required fees, except for the Issue Fee and the Publication Fee, to Deposit Account No. 19-4880. Please also credit any overpayments to said Deposit Account.

Respectfully submitted,



Keiko K. Takagi
Registration No. 47,121

SUGHRUE MION, PLLC
Telephone: (202) 293-7060
Facsimile: (202) 293-7860

WASHINGTON DC SUGHRUE/265550

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CUSTOMER NUMBER

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